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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/465,298 12/17/99 CLARK

D 14543

EXAMINER

023556 IM22/0913
KIMBERLY-CLARK WORLDWIDE, INC.
401 NORTH LAKE STREET
NEENAH WI 54956

REFUMI, I

ART UNIT

PAPER NUMBER

1771

DATE MAILED:

09/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/465,298	CLARK ET AL.	
	Examiner	Art Unit	
	Jenna-Leigh Befumo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 18-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) 11-15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3,4</u> . | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 - 17, drawn to a three-layered non-woven composite, classified in class 442, subclass 381⁺.
 - II. Claims 18 - 23, drawn to a single-layered non-woven fabric, classified in class 442, subclass 347.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product (single-layered nonwoven) is deemed to be useful as barrier fabric useful in medical garments and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Douglas Tulley on September 5, 2001 a provisional election was made with traverse to prosecute the invention of Group I, claims 1 - 17.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 18 - 23 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

7. The drawings are objected to because the specification states, on page 13, line 4, that the reference number 100 is in Figure 5 which it is not. Correction is required.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "84" has been used to designate both the second spunbonded layer and the consolidated nonwoven laminate. Correction is required.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: s, g (Figure 6), 71, 75, 79, 82 (Figure 7), and 102 (Figure 5). Correction is required.

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10. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 88. mentioned on page 16 . line 27 and page 18, line 11. Correction is required.

Claim Objections

11. Claim 16 is objected to because of the following informalities: It appears that the term “forth” in line three is misspelled and should instead be “fourth”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1 – 9, and 16 are rejected under 35 U.S.C. 103(a) as obvious over Lickfield et al. (EP 0754796 A1) in view of Sudduth et al. (5,770,531)

Lickfield et al. disclose a nonwoven laminate comprising a first and second spunbond nonwoven web and a meltblown nonwoven web sandwiched between said first and second spunbond nonwoven webs (abstract). Lickfield et al. disclose the meltblown layer is made from microfibers comprising a diameter of less than 1.5 microns (page 2, lines 54 – 55). Also, the meltblown layer is inherently formed by the fibers autogenously bonding together. The laminate has a hydrohead measurement of up to 80 cm water pressure, or about 78 mbars (page 3, line 10). Additionally, Lickfield et al. disclose that the fibers or filaments used in any of the webs may be bi-component fibers (page 7, lines 33 – 34). Lickfield et al. teach that the bi-component

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fibers can provide improves aesthetics, strength, tear resistance and the like (page 7, lines 35 – 37). Specifically, the bi-component fibers can be polyolefin and polyester sheath/core fibers. Thus, Lickfield et al. teach polypropylene or polyethylene as a component in the bi-component fibers of all three layers. Lickfield et al. fails to teach the diameter of the fibers of the spunbond layers.

Sudduth et al. is drawn to a spunbond/meltblown/spunbond (SMS) laminate. Sudduth et al. teach that spunbonded fibers have a diameter between 10 and 20 microns (column 2, line 59 – column 3, line 5). Therefore, it would have been obvious to one having ordinary skill in the art to choose spunbonded fibers with a diameter of 10 – 20 microns in the spunbonded layer of the SMS laminate taught by Lickfield et al. since it has been held to be within the general skill of a worker in the art to select a known material (i.e., spunbonded microfibers with a diameter of greater than 10 microns) on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Although the limitations of Frazier air permeability and cup crush energy are not explicitly taught by Lickfield et al., it is reasonable to presume that said limitations would be met by the combination of Lickfield et al. and Sudduth et al. Support for said presumption is found in the use of similar materials (i.e. bi-component fibers with similar diameters) and in the similar production steps (i.e. bonding together spunbonded and meltblown fabrics) used to produce a SMS laminate. The burden is upon the Applicant to prove otherwise. Therefore, claims 1 – 9 are rejected.

With respect to claim 16, Sudduth et al. discloses that SMS fabrics can be modified to have various numbers of meltblown and spunbonded layers in the laminate, including a SMMS

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nonwoven (column 3, lines 30 – 49). Also, Sudduth et al. discloses using meltblown polypropylene nonwoven fabrics in the multi-layered laminates (column 7, lines 45 – 55). Therefore, it would have been obvious to one having ordinary skill in the art to use an additional polypropylene meltblown layer between the spunbonded layers of the laminate to modify the barrier properties of the laminate. Thus, claim 16 is rejected.

14. Claims 1 – 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krueger et al. (4,729,371) in view of Butt, Sr. et al. (5,492,751).

Krueger et al. discloses a nonwoven webs made of meltblown bi-component fibers having a diameter of less than 10 mm (column 1, lines 26 – 28). The diameter of the bi-component fibers can be less than 5 or even 1 micrometer (column 3, line 41). The meltblown webs made from bi-component fibers are loftier than conventional meltblown fiber webs and the webs also have lower pressure drops and higher filtration efficiencies (column 1, lines 58 – 66). Krueger et al. teach that the fibers can be formed from a wide variety of fiber forming polymers including polyethylene, polypropylene, polyethylene terephthalate, polyamides, and blends thereof (column 4, lines 25 – 34). An example of a particular bi-component combination is polyethylene and polypropylene (column 4, lines 28). Also, Krueger et al. disclose that the nonwoven web can be laminated to other webs or films by bonding to form laminates (column 4, lines 10 – 19). Since Krueger et al. fails to teach the specific structure of the other nonwoven materials that the meltblown layer can be bonded to, one must look to prior art.

Butt, Sr et al. disclose that SMS laminates have a broad range of applications and are well known (column 1, lines 14 – 30). Further, SMS laminates combine the durability and strength of the spunbond layers with the barrier properties of the meltblown layers. The spunbond layers

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comprise continuous filaments with an average diameter of 12 – 22 microns, while the fine fiber meltblown layers have a diameter of less than 10 microns (column 2, lines 10 – 15). It would have been obvious to one having ordinary skill in the art to add the spunbond layers taught by Butt, Sr. et al. to the meltblown layer disclosed by Krueger et al. to increase the durability and strength of the meltblown fabric and increase the range of uses for the meltblown fabric.

Additionally, Butt, Sr. et al. disclose that the SMS laminate fabrics have hydrostatic head measurements of at least 15cm, Frazier air porosity of at least 50 scfm, and cup crush test energy value of no more than 2250 g-mm (column 2, lines 20 – 26). Even though these limitations are not taught for the combination of Krueger et al. and Butt, Sr. et al, it is reasonable to presume that said limitations would be met by the combination of the two references. Support for said presumption is found in the use of similar materials (i.e. same size fibers in the spunbond and meltblown layers, and bi-component fibers in the meltblown layer) and in the similar production steps (i.e. bonding together spunbond and meltblown fabrics) used to produce laminate nonwoven fabric. The burden is upon the Applicant to prove otherwise. Therefore, claims 1 – 5, and 9 are rejected.

15. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krueger et al. in view of Butt, Sr. et al. as applied to claim 5 above, and further in view of Sudduth et al.

The features of Krueger et al, Butt, Sr. et al. and Sudduth et al. have been set forth above. Although, Krueger et al. discloses the meltblown can be bonded to nonwoven fabrics, Krueger et al. fails to teach an SMMS laminate. Sudduth et al. is drawn to laminate fabrics. Sudduth et al. discloses that SMS fabrics can be modified to have various numbers of meltblown and spunbonded layers in the laminate, including a SMMS nonwoven (column 3, lines 30 – 49).

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Also, Sudduth et al. discloses using meltblown polypropylene nonwoven fabrics in the multi-layered laminates (column 7, lines 45 – 55). Therefore, it would have been obvious to one having ordinary skill in the art to use an additional polypropylene meltblown layer between the spunbonded layers of the laminate to modify the barrier properties of the laminate. Therefore, claim 16 is rejected.

16. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krueger et al. in view of Butt, Sr. et al. as applied to claim 5 above, and further in view of Aishima et al. (3,900,678).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krueger et al. in view of Butt, Sr. et al. and Sudduth et al. as applied to claim 16 above, and further in view of Aishima et al. (3,900,678).

The features of Krueger et al., Butt, Sr. et al, and Sudduth et al, have been set forth above. Krueger et al, fails to teach using crystalline propylene polymers and amorphous polyalphaolefin components as the components of the bi-component fiber. Aishima et al. is drawn to bi-component fibers. Aishima et al. teaches using a crystalline polypropylene and a random or block copolymer of polypropylene and another olefin as the components of the bi-component fiber (abstract). Aishima et al. teach that the bi-component fiber has superior crimpability and a favorable hand as well as excellent mutual adhesion (column 1, lines 56 – 60). Therefore, it would have been obvious to one having ordinary skill in the art to use these components as the components of the bi-component meltblown fibers taught by Krueger et al. to improve the crimpability and hand of the fibers.

Although Aishima et al. fails to teach the crystallinity of the fiber's components it is presumed that the components have the claimed crystallinity. Aishima et al. discloses that the crystalline polypropylene is produced by a stereospecific polymerization catalyst (column 2, lines 62 – 66), which would inherently produce a highly crystalline polymer. Further, the second component which is a copolymer of polypropylene and another olefin (column 3, lines 15 – 27) are similar to the copolymers that Applicant discloses using as the second component on page 8 of the specification. Therefore, claims 10 and 17 are rejected.

Allowable Subject Matter

17. Claims 11 – 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art fails to teach or fairly suggest a SMS nonwoven fabric wherein the meltblown layer comprises a multi-component fiber wherein the first component is an elastic polyolefin and the second component is an elastic polymer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (703) 605-1170. The examiner can normally be reached on Monday - Friday (8:00am - 4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 872-9311 for After Final communications.

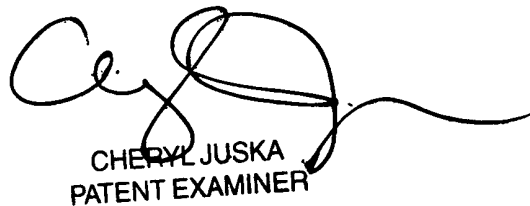
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Jenna-Leigh Befumo
September 10, 2001



CHERYL JUSKA
PATENT EXAMINER